

U.S. Patent Application No.: 09/964,240
AMENDMENT C

ATTORNEY DOCKET NO.: 3974.002

IN THE CLAIMS:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 and 2 (canceled)

3. (previously presented) A system for vaccination and/or therapy, consisting of a composition or a kit comprising a) a vaccine and b) an adjuvant, wherein the adjuvant comprises a pine cone extract obtained by extraction of pine cone with a solution of potassium hydroxide, and wherein said extract comprises potassium.
4. (previously presented) The system of claim 3, wherein the vaccine is a nucleic acid vaccine.

Claims 5 and 6 (canceled)

7. (previously presented) A method of vaccinating or treating a vertebrate, comprising the steps of:
 - a) administering to the vertebrate a vaccine; and
 - b) administering to the vertebrate a pine cone extract, wherein the administration of said extract is before, during, simultaneously with, or after, the administration of said

vaccine, wherein said extract is obtained by extraction of pine cone with a solution of potassium hydroxide, and wherein said extract comprises potassium.

8. (previously presented) The method of claim 7, wherein the vaccine is a nucleic acid vaccine.

Claims 9 and 10 (canceled)

11. (previously presented) The method of claim 7, wherein the pine cone extract is administered orally, by intramuscular injection, by inhalation or by application on mucosal skin.
12. (previously presented) The method of claim 7, wherein the vertebrate is vaccinated or treated against cancer and/or viral infection.

Claims 13-16 (canceled)

17. (previously presented) An adjuvant for administration before, during, simultaneously with, or after, a vaccine, wherein said adjuvant comprises a pine cone extract obtained by extraction of said pine cone with a solution of potassium hydroxide, and wherein said extract comprises potassium.

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18. (previously presented) The adjuvant of claim 17, wherein said vaccine is a nucleic acid vaccine.

Claim 19 (canceled)

20. (previously presented) A system for vaccination and/or therapy, consisting of a composition or a kit comprising a) a vaccine and b) an adjuvant, wherein the adjuvant comprises a pine cone extract produced by a method comprising the steps of:

- a) heat extracting defatted ground pine cone material with an aqueous solvent comprising potassium hydroxide;
- b) removing particulate matter with an average particle size greater than 0.2 μm and leaving an aqueous solution; and
- c) adjusting the pH of the resulting aqueous solution to between 6.0 and 8.0.

21. (previously presented) The system of claim 20, wherein the vaccine is a nucleic acid vaccine.

22. (currently amended) The system of claim 20, wherein the pine cone extract is produced by a method further comprising, after said step (c), the steps of:

(d) ~~filtrating the supernatant~~ the aqueous solution of step
(c) to obtain a retentate fraction;

(e) drawing off the retentate fraction and removing particles with an average molecular mass of less than 30 kDa; and

(f) suspending the retentate fraction in an aqueous solvent comprising potassium hydroxide at a pH between 6.0 and 8.0.

23. (previously presented) A method of vaccinating or treating a vertebrate, comprising the steps of:

a) administering to the vertebrate a vaccine; and

b) administering to the vertebrate a pine cone extract, wherein the administration of said extract is before, during, simultaneously with, or after, the administration of said vaccine, and wherein said extract is produced by a method comprising the steps of:

i) heat extracting a defatted ground pine cone material with an aqueous solvent comprising potassium hydroxide;

ii) removing particulate matter with an average particle size greater than 0.2 μm and leaving an aqueous solution; and

iii) adjusting the pH of the resulting aqueous solution to between 6.0 and 8.0.

24. (previously presented) The method of claim 23, wherein the vaccine is a nucleic acid vaccine.

25. (previously presented) The method of claim 23, wherein the pine cone extract is administered orally, by intramuscular injection, by inhalation or by application on mucosal skin.

26. (previously presented) The method of claim 23, wherein the vertebrate is vaccinated or treated against cancer and/or viral infection.

27. (previously presented) An adjuvant for administration before, during, simultaneously with, or after, a vaccine, wherein said adjuvant comprises a pine cone extract produced by a method comprising the steps of:

i) heat extracting a defatted ground pine cone material with an aqueous solvent comprising potassium hydroxide;

ii) removing particulate matter with an average particle size greater than 0.2 μm and leaving an aqueous solution; and

iii) adjusting the pH of the resulting aqueous solution to between 6.0 and 8.0.

28. (previously presented) The method of claim 27, wherein the vaccine is a nucleic acid vaccine.

29. (previously presented) A pine cone extract obtained by extraction of a pine cone with a solution of potassium hydroxide, whereby said extract comprises potassium.

30. (previously presented) A pine cone extract produced by a method comprising the steps of:

i) heat extracting a defatted ground pine cone material with an aqueous solvent comprising potassium hydroxide;

ii) removing particulate matter with an average particle size greater than 0.2 μm and leaving an aqueous solution; and

iii) adjusting the pH of the resulting aqueous solution to between 6.0 and 8.0.